

FACT SHEET FOR STATE WASTE DISCHARGE PERMIT ST-7353

Naval Undersea Warfare Center Division Keyport

TABLE OF CONTENTS

INTRODUCTION	3
BACKGROUND INFORMATION	4
DESCRIPTION OF THE FACILITY	4
INDUSTRIAL WASTEWATER	4
INDUSTRIAL OPERATIONS / DESCRIPTIONS	5
CHANGES TO FACILITY AND REQUESTS FOR CHANGES IN PERMIT	10
Treatment Processes.....	11
ENVIRONMENTALLY SIGNIFICANT PROPERTIES OF OTTO FUEL II	12
PERMIT STATUS.....	13
RECEIVING WATER – POTW	13
SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT	13
WASTEWATER CHARACTERIZATION	14
SEPA COMPLIANCE	14
PROPOSED PERMIT LIMITATIONS.....	14
TECHNOLOGY-BASED EFFLUENT LIMITATIONS	15
EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS	16
COMPARISON OF LIMITATIONS WITH THE EXISTING PERMIT	17
MONITORING REQUIREMENTS	18
OTHER PERMIT CONDITIONS	18
REPORTING AND RECORD KEEPING.....	18
OPERATIONS AND MAINTENANCE.....	19
PROHIBITED DISCHARGES	19
DILUTION PROHIBITED	19
NON-ROUTINE AND UNANTICIPATED DISCHARGES	19
SPILL PLAN.....	19
SLUG DISCHARGE CONTROL PLAN	19
TOXIC ORGANIC MANAGEMENT PLAN	20
OPTIONAL AMMONIA NITROGEN STUDY	20
GENERAL CONDITIONS	20
PUBLIC NOTIFICATION OF NONCOMPLIANCE	21
RECOMMENDATION FOR PERMIT ISSUANCE	21
REFERENCES FOR TEXT AND APPENDICES	21
Appendices.....	22
APPENDIX A—PUBLIC INVOLVEMENT INFORMATION	22
APPENDIX B—GLOSSARY	23
APPENDIX C—RESPONSE TO COMMENTS	27

INTRODUCTION

This fact sheet is a companion document to the draft State Waste Discharge Permit No ST-7353. The Department of Ecology (the Department, or Ecology) proposes to issue this permit, which will allow discharge of wastewater to Central Kitsap Wastewater Treatment Plant. This fact sheet contains an explanation of the nature of the proposed discharge, Ecology's decisions on limiting the pollutants in the wastewater, and the regulatory and technical bases for those decisions.

Washington State law (RCW 90.48.080 and 90.48.160) requires that a permit be issued before discharge of wastewater to waters of the state is allowed. This statute includes commercial or industrial discharges to sewerage systems operated by municipalities or public entities which discharge into public waters of the state. Regulations adopted by the state include procedures for issuing permits and establish requirements which are to be included in the permit (Chapter 173-216 WAC).

This fact sheet and draft permit are available for review by interested persons as described in *Appendix A—Public Involvement Information*.

The fact sheet and draft permit have been reviewed by the Permittee. Errors and omissions identified in these reviews have been corrected before going to public notice. After the public comment period has closed, the Department of Ecology will summarize the substantive comments and the response to each comment. The summary and response to comments will become part of the file on the permit and parties submitting comments will receive a copy of Ecology's response. Changes to the permit will be addressed in *Appendix C—Response to Comments*.

GENERAL INFORMATION	
Applicant	US Navy - Naval Undersea Warfare Center Division
Facility Name and Address	610 Dowell Street Keyport, WA 98345
Type of Facility	Testing, Maintenance, and Repair of Underwater Weapons
Facility Discharge Location	Latitude: 47° 40' 35" N Longitude: 122° 36' 06" W
Treatment Plant Receiving Discharge	Central Kitsap Wastewater Treatment Plant [indirect discharge to Port Orchard Bay (Puget Sound)]
Contact at Facility	Name: Reinout van Beynum, Building 1051 Telephone: 360-396-5435 e-mail: reinout.vanbeynum@navy.mil
Responsible Official	Name: Jeffrey Barnick Title: Head, Infrastructure Services Division Address: 610 Dowell Street, Building 206 Keyport, WA 98345 Telephone: 360-315-2206

BACKGROUND INFORMATION

DESCRIPTION OF THE FACILITY

The Naval Undersea Warfare Center (NUWC) Division, Keyport performs testing and evaluation; engineering assembly; maintenance and repair; and fleet and industrial base support for undersea warfare systems (torpedo), countermeasures, and sonar systems.

The 340-acre facility has numerous industrial buildings; 22 single family units; two barracks, which can house 155 military residents; and supporting utility systems and facilities. At the time of the most recent inspection in late 2007, the base housed approximately 30 full-time residents.

General industrial activities include metal finishing, metal working, machining, electrical assembly, maintenance and repair, torpedo teardown and refurbishment, weapons testing; and naval vessel operation and maintenance. The scale of metal finishing operations has been greatly diminished in the past five years, due to the Navy's decision to centralize most metal finishing/plating work at Puget Sound Naval Shipyard. NUWC Division, Keyport support activities involve police and fire department functions, paint shops, a chemistry laboratory, a heating plant, and hazardous waste treatment and storage facilities.

NUWC Division, Keyport receives, stores, and transports hundreds of types of raw materials each week to support various weapons programs, command support requirements, maintenance tasks, and fleet repair and reissue requirements.

The major products are the parts to support the manufacture or overhaul of a limited number of MK48, ADCAP and MK 46 weapons. The torpedo propulsion systems presently in use on torpedoes serviced at the base are fueled by Otto Fuel II. The MK50 lithium/sulfur hexafluoride torpedo is no longer employed at this base. Mobile targets (battery/electric-powered drones), as well as automated test equipment and electrical components for numerous sonar and weapons control systems, are supported by the NUWC Division. No warheads are manufactured or stored on-site.

INDUSTRIAL WASTEWATER

NUWC Division, Keyport routes most industrial wastewater to an in-house Industrial Wastewater Pretreatment Plant (IWTP), Building 825. The following wastes are treated at the IWTP:

- Virtually all of the wastewater produced at the metal finishing plant (Building 1058).
- Additional wastewater, including Chromium III-bearing wastewater received from the TSD (Treatment, Storage and Disposal) facility. The standard procedure is to reduce Chromium VI to the trivalent form at the TSD facility.
- Oily wastewater from Building 1055. Building 1055 is an oil/water separator that receives oily wastewater from tank cleaning. After removing the petroleum components, the wastewater is further treated at the IWTP.

NUWC Division Keyport segregates these wastewater streams into basic (high pH) waste and miscellaneous acid waste streams, and the IWTP accomplishes standard metals removal treatment by means of metals flocculation and precipitation (by means of pH adjustment and addition of polymers), and filtration prior to the discharge to the sanitary sewer. The IWTP performs wastewater treatment on a batch basis, resulting in an average of 10,000 gallons per day (gpd). However, due to the reduced scale of metal finishing activities conducted at this time, it is typical for one batch or less to be run each three months. The design capacity for the IWTP is 144,000 gpd. The rate of generation of wastewater from cyanide-bearing wastestreams has been reduced by 90 percent since the metal finishing plant ceased producing cyanide-related wastewater. This facility does not receive oily bilge water. Boiler blow-down is discharged from the steam boiler to the sanitary sewer at a rate of less than 50 gallons per day.

INDUSTRIAL OPERATIONS/DESCRIPTIONS

- **Building 38 - Support Shop:** Building 38 contains a high pressure water jet cutter and two deburring machines. Wastewater from these machines is discharged into a wastewater collection sump that is pumped to the IWTP. This building also contains an X-ray film developer. The rinse water from the X-ray developer is subjected to a silver removal process prior to discharge to the sanitary sewer. The rinse from the X-ray film processor is not treated at the IWTP.
- **Building 81 - Cable Repair Shop & Torpedo Shell Repair Facility:** This building contains two significant sources of industrial wastewater.
 - The facility pumps from an Alodine wash station to a portable Alodine waste tank located outside the building. The facility then transports this wastewater to Building 1051 for pretreatment for reduction of hexavalent chromium. Following the reduction step, the wastewater is transported to the IWTP for treatment prior to discharge to the sanitary sewer.
 - Building 81 also contains a newly-identified discharge consisting of cable hydrotest water, which the facility discharges directly to the sanitary sewer, as opposed to treating it at the IWTP, prior to discharge to the sanitary sewer. A later section of this fact sheet contains a description of this new discharge in greater detail.
- **Building 82 - Target Refurbishment Shop:** The facility discharges three main sources of wastewater from Building 82:
 - Target nose cone hydrotest (from testing of sonar nose arrays) wastewater is discharged from Building 82. The facility stores the hydrotest water in a 300-gallon storage tank. Approximately once each year, the facility samples and disposes of this water at a nearby lift station.
 - Target tail cone hydrotest wastewater is discharged from building 82. During this test, the facility places the target drone tail in the water, and the propeller is spun. This water is discharged on an occasional basis in 300-gallon batches.

- Targets returning from use on the range are washed down on a covered patio east of the building. The washwater is collected in a 600-gallon tank. When the tank approaches its capacity, which occurs several times per year, it is sampled and analyzed. If the water in the tank conforms with discharge standards, it is disposed of at a nearby sewer lift station. If the water in the tank does not meet discharge standards, the facility transports it to the TSD for storage and off-site disposal.
- Building 82 also contains a battery maintenance shop. (This battery shop was formerly operated in Building 85.) Wet cell batteries (silver chloride/potassium hydroxide) are washed down, recharged, and reissued at this facility. Liquid potassium hydroxide (KOH) solution from expired batteries, and washwater from recycled batteries is collected in sinks that discharge to a 330-gallon portable tank, which is located adjacent to the building. The tank is transported to, and drained into an industrial wastewater lift station, from which the water is pumped to the IWTP.
- A small quantity of wastewater, associated mainly with grinding and polishing of samples as a preparation for electron microscopy, is generated as part of Weapons Quality Evaluation Division functions. This volume of wastewater discharged is typically no greater than several gallons per month. These operations were relocated from Building 206 to Building 82, during December 2007.
- **Building 84 - De-painting and Painting Shop:** There are two significant sources of wastewater at Building 84:
 - A de-painting process uses sodium bicarbonate (baking soda) surrounded by a water spray jacket to reduce dust emissions. The paint chips are filtered out and disposed of as solid waste. The water is recycled through the system several times after which it is sent to the IWTP for treatment.
 - Torpedo nose cone repair wastewater, mainly consisting of alodine process wastewater, is also discharged from this building. The facility subjects this wastewater to chromium reduction at the TSD facility prior to transport to an industrial wastewater lift station, from which it is pumped to the IWTP for final treatment.
- **Building 85 - former Battery Maintenance Shop:** The battery maintenance shop, which was formerly operated in this building, has been moved to Building 82. There is no longer a battery shop located in Building 85.
- **Building 206 - Weapon Quality Engineering Center:** All wastewater-producing processes were removed from this building in December 2007, following submittal of the permit application. The facility moved the wastewater source, largely consisting of sample grinding and polishing wastewater, to Building 82. Building 206 still contains chemical laboratories. TSD personnel collect all hazardous materials/chemicals. However, all sinks discharge to the sanitary sewer.

- **Buildings 209/1049 - Otto Fuel Processing and Dewatering Facility:** The facility contains Otto Fuel II drying equipment. Fuel is transported from and to the Otto Fuel separation equipment at Building 514. There is no discharge of Otto Fuel-related wastewater to the sanitary sewer at this building.
- **Building 234 - Power Plant - Boiler Blowdown:** Steam boilers for steam heating, high and low pressure service air, and diesel generators for backup emergency power are operated in Building 234. The facility discharges steam generator overflow from the boilers and boiler blowdown into the sanitary sewer following pH adjustment. The Navy employs two-each 700 hp boilers and one-each 500 hp boiler. As the steam generated at this plant is mainly for heating of buildings, most boiler use occurs during the winter months. During the summer, operation of the single 500 hp boiler is typically sufficient to meet steam demand. The boiler additives used are un-extraordinary for this application and they do not contain heavy-metal ingredients. The boiler additives used are sodium hydroxide, cyclohexylamine/diethanolamine, and sodium hydroxide/sodium sulfite. The Department of Ecology does not anticipate any significant environmental impacts, as a result of these discharges to the sanitary sewer. The facility discharges wastewater resulting from boiler maintenance and boiler blowdown, to a tank, where it is subjected to pH adjustment prior to discharge to the sanitary sewer.
- **Building 489 Torpedo Shop - formerly MK 48 Torpedo IMA/Depot Facility:** The facility collects and transports rinsewater from the Alodine touch-up station to Building 1051 for pretreatment (chromium reduction) prior to transport to an industrial wastewater lift station from which it is pumped to the IWTP for final treatment.
- **Building 514 - MK 48 ADCAP Torpedo IMA/Depot Facility (Otto Fuel Recovery and Treatment):**
 - The primary component of Otto Fuel II is propylene glycol di-nitrate. The Otto Fuel II removed from the torpedo fuel tanks is uncombusted, and is therefore not cyanide-bearing. However, it is mixed with sea water. The facility subjects Otto Fuel recovered from torpedo fuel tanks to gravity separation in a 1500-gallon settling tank. The denser-than-water Otto Fuel removed from the 1500-gallon settling tank is transported to one of several 5000-gallon holding tanks for drying and reclamation at Building 209/1049. The water fraction removed from the top of the settling tank is directed to another 300-gallon settling tank. The heavy fraction from this tank is also subjected to drying and reclamation at Building 209/1049. The water fraction removed from this final settling tank is pumped to a series of four-each 500-gallon carbon-filled tanks which remove trace Otto Fuel from the process prior to sending the filtered water to the IWTP for final treatment.
 - **Afterbody Flush from Torpedo Bodies (Not Discharged to Sanitary Sewer):** Water containing trace amounts of Otto Fuel is recovered from the torpedo bodies (as opposed to torpedo fuel tanks). This dilute Otto Fuel contains byproducts of combustion, including cyanide. The facility sends this wastewater directly to a 1500-gallon holding tank, and then transfers it by means of a tank truck to the TSD (treatment, storage, and disposal facility). There is no discharge to the sanitary sewer associated with the down-range torpedo body flush. This process is described here only to indicate that it has been identified as a wet process occurring on the site, and it has been determined to have no impact on sanitary sewer discharges.

- **Building 825 - Industrial Wastewater Pretreatment Plant (IWTP):** The IWTP is the main source of industrial wastewater at the NUWC facility. Although most wastewater treated at the IWTP comes from the metal finishing operations conducted at Building 1058 (the Metal Finishing Facility), a number of other wastestreams from other sources on the base are trucked or piped to this building for treatment prior to discharge to the sanitary sewer. The IWTP was designed and built to treat the wastewater from the extensive plating shop, which was operated at this site until recently. The facility treats metal-bearing wastewaters by means of metals precipitation, solids dewatering, and filtration. The facility conducts chromium reduction at the TSD facility at this time, although the IWTP still maintains the capability of chromium reduction. No cyanide-bearing metal finishing wastewaters are generated at NUWC. Cyanide-bearing wastewater from the down-range torpedo flush is shipped off-site from the TSD facility. Therefore, cyanide destruction operations are not conducted at the IWTP. The wastewater received at Building 825 is treated and tested. Following treatment, and monitoring to confirm that the wastewater meets permit standards, the treated wastewater is discharged to the sanitary sewer. The wastewater pumped to the sanitary sewer is treated at Central Kitsap County POTW, which is located at Brownsville, Washington. The treatment processes which occur in Building 825 are covered in greater detail in the *Treatment Processes* section below.
- **Building 894 - Raytheon Mk46 Torpedo Refurbishing Building:** The Navy leases this building to the Raytheon Corporation. Formerly, Raytheon used an aqueous parts washer for cleaning circuit boards. This discharge has been discontinued.
- **Building 1051 - Treatment Storage and Disposal (TSD) Facility:** NUWC sends its hexavalent chromium-bearing wastewater to the TSD facility, where it is reduced to its trivalent state. The Alodining process employed as part of the torpedo shell repair process conducted at Buildings 489 (MK 48 Torpedo IMA/Depot Facility) and 81; and the torpedo nose cone repair process conducted at Building 84 generates a small volume of hexavalent chromium-bearing wastewater. The pretreated wastewater bearing the trivalent chromium is transported from the TSD Building to Building 825 (IWTP-Industrial Wastewater pre-Treatment Plant) for removal of metals prior to discharge to the sanitary sewer.
- **Building 1055 - Oily Wastewater Treatment:** This building contains an oil/water separator. The system was installed as part of a plan to process bilge water. However, the bilge water treatment system was never started up. Therefore, there is no industrial discharge to the sanitary sewer from this building, at this time.
- **Building 1058 - Metal Finishing Shop:** Aluminum anodizing is the only metal finishing process which is conducted in the metal finishing shop which produces wastewater in substantial volumes. The facility also conducts acid pickling of ferrous metals and passivation of stainless steels at this building. Preparation for the anodizing process includes alkaline degreasing. The facility collects anodizing rinse wastewater in a 1000-gallon tank in the basement of the plating shop, and then sends it to a 10,000-gallon tank located outside the metal finishing building, and then to the treatment plant (IWTP) by means of a double-walled hardpipe system. The facility sends any wastewater resulting from alodine operations, or other hexavalent chromium-producing operations, to the TSD for the chromium reduction treatment step and transports this pretreated wastewater to the IWTP for final treatment involving metal removal and pH adjustment. Brush plating operations are still conducted at NUWC, and these wastewaters are treated at IWTP. Air scrubber water from the plating shop is sent to the IWTP for treatment.

- Building 1059 - Travel Office:** A high efficiency furnace generates a very small wastestream of acidic condensate. The acidity of the condensate is due to the lack of buffering capacity typical of condensate from natural-gas fired systems. The condensate is pumped through a 30-gallon container of calcium carbonate to buffer the wastewater and ensure that the pH meets discharge limits prior to being discharged to the sanitary sewer. The container is checked two times per year to replenish the calcium carbonate. As this furnace is part of the heating system for the building, the Department of Ecology considers this discharge to be substantially similar in nature to domestic wastewater. Therefore, the Department of Ecology does not consider the regulation of the discharge from this building to be under the purview of this permit.

Summary of Discharges Authorized by Proposed Permit		
Sample Point Number	Description of Discharge	Flow (gallons per day)
Sample Point 001	Building 825 IWTP	50,000 (limited in permit)
Sample Point 002	Manhole Outside Building 94 (Combined Industrial and Domestic Wastewater)	Approximately 250,000 gallons of domestic wastewater and 50,000 gallons of industrial wastewater per day. This discharge is not limited in the permit.
Sample Point 003	X-Ray Developer at Building 38	200 (estimated maximum flow - flow not limited in permit)
N/A ^a	Deburring Machine Discharge at Building 38 (discharge from deburring process is to IWTP Building rather than directly to sanitary sewer)	200 (estimated maximum flow-flow not limited in permit. The permit limits this wastestream as part of the discharge from IWTP)
N/A ^a	<ul style="list-style-type: none"> Hydrostatic Cable Testing water at Building 81 Torpedo shell repair rinse water from Building 81 	1000 (estimated maximum flow-flow not limited in permit)
N/A ^a	<ul style="list-style-type: none"> Hydrotest water from Building 82 (Target Refurbishment Shop) Wash water from Building 82 (Target Refurbishment Shop) Battery maintenance (Target Refurbishment Shop) Sample Preparation grinding and polishing wastewater 	Hydrotest Water (target nose cone and tail cone): 300 gpd (estimated maximum flow of target hydrotest water-flow not limited in permit) Target Washdown Water: 600 gpd (estimated maximum flow - flow not limited in permit) Battery Maintenance Water disposed of by means of IWTP, not direct discharged. The volume of flows from this sample point is not subject to a flow limitation in the proposed permit.
N/A ^a	<ul style="list-style-type: none"> Bicarbonate Blast water from Building 84 Nosecone Repair rinse water from Building 84 	Discharges authorized as part of IWTP discharge.
N/A ^b	Sinks and Metallurgical Grinding Process water from Building 206 (Non-Destructive Test Laboratories). These processes have been moved to Building 82.	
N/A ^a	Boiler Blowdown at Building 234 (Power Plant)	200 (estimated maximum flow - flow not limited in permit)
N/A ^a	Torpedo Shell Repair rinse water from Building 489 Torpedo Shop	Discharge through IWTP [sample point 001 following chromium reduction at Building 1051 (TSDF)]

Summary of Discharges Authorized by Proposed Permit		
Sample Point Number	Description of Discharge	Flow (gallons per day)
N/A ^a	Building 514 - Otto Fuel Recovery and Treatment	Wastewater from this process is not directly discharged to the sanitary sewer. No Otto Fuel-related discharges are discharged to the sanitary sewer.
N/A ^b	Circuit Board Washer/Effluent at Building 894	No longer discharged (formerly 500 gpd)
N/A ^a	Furnace Condensate at Building 1059 (Travel Office)	200 (estimated maximum flow - flow not limited in permit, domestic discharge not subject to permit requirements)
N/A ^a	Building 1058 (Regional Metal Finishing Facility)	All industrial wastewater is discharged through building 825 (IWTP) - See Sample Point 001
^a N/A indicates sample point not given numeric designation as sampling is not required in this permit, and numeric limitations have not been assigned to the applicable discharge or sample point.		
^b N/A indicates not applicable as discharge has been moved from this building during the course of drafting the proposed permit.		

CHANGES TO FACILITY AND REQUESTS FOR CHANGES IN PERMIT

The Navy transferred most of its metal finishing operations in the region to Puget Sound Naval Shipyard during the period 2004 through 2006. However, the Navy continues to operate a number of metal finishing operations at NUWC. Small-scale anodize stripping still occurs at two locations on the base (Buildings 84 and 1058). In addition, the facility still produces chromic acid wastewater (and pretreats it at the TSD facility to Chromium III). Other waste streams which involve preparation for metal finishing operations occur on the base. Soda-blast wastewater from Building 84 is still treated at the main treatment building. In addition, wastewater from the deburring and grinding/polishing, and wastewater from water jet metal cutting machines in Building 38, continues to be treated at the IWTP (Building 825).

In its application for permit renewal, the Navy requested authorization to discharge circuit board cleaning water. During the time of drafting of this permit, this wastestream was eliminated.

The facility relocated the Battery Shop from Building 85 to Building 82 during the course of the writing of the draft of the proposed permit.

The facility also moved the sample preparation operations, including grinding and polishing operations, from Building 20 to Building 82.

The Navy identified that a discharge from a hydrostatic cable testing had been incorrectly routed to stormwater discharge. The Navy has requested authorization under the proposed renewal of this permit, to discharge this wastewater to the sanitary sewer without treatment. The sample results indicate the discharge to be substantially similar to typical tap water with respect to metals and oil & grease assays.

The Navy requested that the testing requirement for TTO (Total Toxic Organic Compounds) be removed. This testing requirement was placed in the previous state waste discharge permits as a result of federal categorical standards applicable to the electroplating industry. The extensive electroplating plant formerly located at this site has been removed and plating operations have

now been centralized to Puget Sound Naval Shipyard. Puget Sound Naval Shipyard is operated by the US Navy, which discharges wastewater from that facility to the City of Bremerton POTW, under the authorization of a separate state waste discharge permit.

The Navy requested removal of the limitation on ammonia nitrogen at the lift station (Sample Point 002). There is no apparent significant source of ammonia nitrogen on the base, other than domestic waste. During the effective period of the permit, two violations of the 40 mg/L permit standard occurred. The Metcalf and Eddy text *"Wastewater Engineering Treatment and Reuse,"* characterizes typical domestic sewage assays for ammonia nitrogen as varying between 12 mg/L and 50 mg/L. As this base is essentially non-residential, the high ratio of toilet flushes to showers and dishwasher discharges may be responsible for the relatively high strength of the lift station water from this facility.

Central Kitsap Sewer District has requested that the Navy continue to submit copies of discharge monitoring reports to the sewer district. The District has also requested that oil and grease samples collected at the lift station, be grab samples, and has requested that a manhole located downstream from the manhole used for the existing sample point be used for oil and grease collection due to access issues arising from the fact that flow measurement and sampling equipment are located in the existing manhole sample point.

TREATMENT PROCESSES

The Navy stores acid metal-bearing wastewater (non-cyanide containing wastewater) in a 40,000-gallon acid waste storage tank until batch treatment is initiated. The wastewater is then routed to a 40,000-gallon chromium reduction tank, in which sodium metabisulphite is used for reduction of hexavalent chromium.

The Navy routes metal-bearing wastewater to a 50,000-gallon intermediate storage tank, in which pH adjustment occurs as needed. The waste stream is then sent to a flash mixer, and a flocculation tank, in which anionic and cationic polymers are used as settling aids. The wastewater is then subjected to settling in a 6300-gallon clarifier. The clarifier overflow is treated in the four sand filters arranged in parallel. Treated water is stored in two-each 20,000-gallon treated storage water tanks. The water is sampled, analyzed, and discharged to the sanitary sewer once analytical results indicate compliance with permit standards. De-watered sludge is placed in 55-gallon drums and shipped to the TSD facility located on the site.

The facility does not conduct cyanide oxidation at this site. However, the IWTP plant maintains equipment on-site for cyanide destruction. The IWTP has a 7000-gallon storage tank and a 7000-gallon cyanide reactor tank in which cyanide-bearing wastes were subjected to the alkaline chlorination process.

Important components of the IWTP at Building 825 include:

- **Mixing Tank for Polymer Addition/Clarifier:** Wastewater composed of metal finishing rinsewater is transferred from the plating waste tank through a mixer tank, where polymer and ferrous sulfate are added, and any additional pH adjustment is made. The wastewater is then subjected to settling in the cone-bottomed clarifier. The Navy adopted the ferrous sulfide process at NUWC during the early 1990s, and subsequent studies indicated substantial savings in sludge volumes produced compared to the hydroxide settling system formerly used.

- **Sodium Bicarbonate Blasting Water Storage:** The facility initially stores wastewater associated with the sodium-bicarbonate surface blasting operation in a 40,000-gallon acid waste storage tank at the IWTP.
- **Plating Wastewater Storage Tank:** Plating wastewater is stored in a 40,000-gallon acid waste storage tank. If analytical results from samples from this tank indicate the presence of chromium VI, the facility can treat the wastewater with sodium sulfite. Under normal conditions, the Navy treats hexavalent chromium-bearing wastewater in the TSD facility.
- **Mixing Flocculation and Settling Tanks for Metal-Bearing Wastewater:** The Navy introduces polymer in a flash mixer, and then transfers the wastewater to a flocculator, and then to a clarifier. The settled sludge from the clarifier is dewatered in a sludge press to remove additional water, and the sludge is disposed of through the DRMO (Defense Revitalization and Marketing Office) at Fort Lewis. The Navy treats the clarifier effluent through a sand filter prior to discharge to the sanitary sewer. The facility discharges to the sanitary sewer only after it samples the wastewater, and analytical results indicate compliance with permit limitations.

ENVIRONMENTALLY SIGNIFICANT PROPERTIES OF OTTO FUEL II

Propylene glycol di-nitrite (PGDN), the main component of Otto Fuel II, is resistant to organisms found in sewage sludge, but is photo-labile, and evaporates rapidly from water solutions. The unexpected volatility was found to be due to formation of an azeotrope (see definition in glossary at end of this fact sheet) with water. The tendency to rapidly evaporate is a property which would be expected to minimize effects of Otto Fuel II discharges on the POTW. However, the apparent lack of treatability is a characteristic which would increase the likelihood of its being passed through the treatment plant. The Department of Ecology was unable to find any documentation indicating incidents of substantial interference effects at POTW's from Otto Fuel II. However, metabolism of glucose by sewage plant microorganisms has been shown, based on research literature, to be inhibited at a concentration of 10 mg/L PGDN in a laboratory-scale study. As normal combustion of the fuel results in production of cyanide, it is possible that biological oxidation in a POTW might result in cyanide byproducts, although this effect has not been documented by research. However, as noted, the primary component in Otto Fuel is refractory to biological oxidation, making production of environmentally significant quantities of cyanide unlikely. Research has indicated significant inhibition of growth of an algae used for bioassays at PGDN concentrations of 0.76 mg/L. Dibutyl sebacate (22.5%) and 2-nitrophenylamine (2.5%) are also present in the fuel and serve as a stabilizing agent and a de-sensitizing agent, respectively. There is little information on the environmental effects of these compounds.

Although the above information indicates PGDN to be toxic to microorganisms used by treatment plants for degradation of pollutants, there is little indication that the compound is toxic at the concentrations likely to be encountered following dilution with non-industrial wastewater. The lack of specific toxicity data on dibutyl sebacate and 2-nitrophenylamine make it necessary to infer toxicity characteristics based on structure-toxicity correlates exhibited by analogous compounds. The Department of Ecology concludes, based on this limited information, that significant inhibition of aeration processes typically conducted at wastewater treatment plants is unlikely as a result of the dilute concentrations at which these two compounds are likely to be encountered in POTW plant influent.

PERMIT STATUS

The existing permit for this facility was issued on June 28, 2002, and became effective June 28, 2002. The permit for this facility expired on June 28, 2007. The Department of Ecology received an application for renewal of the existing permit on January 5, 2007. The Department of Ecology determined the application to be complete on January 18, 2007. A notice of temporary state waste discharge permit was issued on June 18, 2007.

The Department of Ecology modified the permit on March 7, 2003. Under this modification, the Permittee received an interim schedule to allow it to use monitoring data collected for Outfall 002 to evaluate its effluent quality, rather than to require compliance with the limitations immediately. The modification of March 2, 2003, also included a change in the maximum daily limit for mercury from 0.006 mg/L to 0.01 mg/L in order to be consistent with the local limit in the revised Kitsap County Ordinance 55, Section 16.

RECEIVING WATER – POTW

The Central Kitsap POTW provides wastewater treatment service for the cities of Silverdale, Keyport, and Poulsbo; the Central Kitsap area; US Navy Submarine Base Bangor; and Naval Undersea Warfare Center at Keyport.

The treatment plant consists of two treatment trains in parallel, each containing a primary clarifier, an aeration basin, and a secondary clarifier. The POTW discharges treated wastewater, following disinfection using ultraviolet light, to Port Orchard Bay. The effluent from the Central Kitsap plant is discharged approximately 3200 feet offshore at a depth of 46 feet below mean low water. The plant is a secondary treatment (activated sludge) facility. Port Orchard Bay in the vicinity of Central Kitsap POTW outfall is designated as “extraordinary.” The design capacity for Central Kitsap POTW is 6.0 MGD. The average daily flow of wastewater treated at the Central Kitsap Plant in 2006 was 3.9 million gallons of wastewater. Influent BOD₅ loading design criterion for the maximum month in 2006 was 14,100 pounds per day.

The contractual agreement between Central Kitsap POTW and NUWC states that the daily average maximum monthly flow to be discharged to Central Kitsap POTW will be no greater than 0.5 MGD. The Central Kitsap POTW discharge is regulated under NPDES Permit No. WA-003052-0, issued by the Department of Ecology.

SUMMARY OF COMPLIANCE WITH THE PREVIOUS PERMIT

In a letter of June 24, 2002, Kitsap County indicated that it had identified elevated concentrations of mercury and other metals at Sample Point 002, which is the lift station that serves the entire base.

The Department of Ecology sent a warning letter to NUWC on February 26, 2004, for failure to report analytical values for oil and grease, TTO, and TSS for the sampling period consisting of October 2002 and December 2002. The same warning letter also listed an ammonia nitrogen discharge violation (40.9 mg/L) for the August 2003 monitoring period.

In October 2007, the facility informed Ecology of a violation of the ammonia-nitrogen standard.

The facility last received an inspection on October 23, 2007.

WASTEWATER CHARACTERIZATION

The concentration of pollutants in the discharge was reported in the permit application and in discharge monitoring reports. The proposed wastewater discharge is characterized for the following parameters:

Wastewater Characterization of Discharge from Sample Point 001, based on Information Submitted in Permit Application Received January 5, 2007			
Parameter	Minimum	Maximum	Average
Total Suspended Solids, mg/L	< 2.0	20	3.0
pH, standard pH units	7.1	9.0	8.1
Total Oil & Grease, mg/L	< 5	< 5	< 5
Cyanide, total, mg/L	< 0.2	< 0.2	< 0.2
Cadmium, total, mg/L	0.01	0.03	0.01
Chromium, total, mg/L	0.01	0.21	0.03
Lead, total, mg/L	0.01	0.01	0.01
Mercury, total, mg/L	< 0.001	< 0.001	< 0.001
Total Metals ^a , mg/L	0.06	0.81	0.18
Nickel, total, mg/L	0.03	0.40	0.11
Silver, total, mg/L	< 0.01	< 0.01	< 0.01
Zinc, total, mg/L	0.01	2.46	0.24
^a "Total Metals" is the sum of the concentrations of total copper, total nickel, total chromium, and total lead.			

SEPA COMPLIANCE

The NUWC facility is a preexisting facility with a preexisting permit. Therefore, renewal of this permit does not require submittal of an environmental checklist, and does not require completion of an environmental impact statement.

PROPOSED PERMIT LIMITATIONS

State regulations require that limitations set forth in a waste discharge permit must be based on the technology available to treat the pollutants (technology-based) or be based on the effects of the pollutants to the POTW (local limits). Wastewater must be treated using all known, available, and reasonable treatment (AKART) and not interfere with the operation of the POTW.

The Department of Ecology determined the minimum requirements to demonstrate compliance with the AKART standards was determined based on application of requirements in 40 CFR Part 413.10. The Department of Ecology considers compliance with Pretreatment Standards for Existing Sources to be consistent with state of Washington AKART requirements. The flocculation and settling, which the Permittee has employed for treatment of plating wastewater, is consistent with the technology evaluated as being consistent with the economically achievable technology, which USEPA established in its guidance documents for the electroplating category.

The more stringent of the local limits-based or technology-based limits are applied to each of the parameters of concern. Each of these types of limits is described in more detail below.

TECHNOLOGY-BASED EFFLUENT LIMITATIONS

All waste discharge permits issued by the Department of Ecology must specify conditions requiring available and reasonable methods of prevention, control, and treatment of discharges to waters of the state (WAC 173-216-110). The metal finishing wastewater from this facility is subject to categorical standards in 40 CFR Part 413.10.

In addition to the limited plating and metal finishing operations conducted at this site, the Navy continues to perform a number of operations, such as grinding and polishing, which may result in metals in the associated process wastewaters. The Navy treats the portion of these wastewaters which are most likely to contain environmentally significant concentrations of metals in the wastewater treatment building. The following permit limitations are necessary to satisfy the requirement for AKART:

Daily Maximum Limitation in 40 CFR Part 413.15	
Pollutant Parameter	Daily Maximum Limitation in 40CFR Part 433.17
Cadmium, total	0.69 mg/L
Chromium, total	2.77 mg/L
Copper, total	3.38 mg/L
Lead, total	0.69 mg/L
Nickel, total	3.98 mg/L
Silver, total	0.43 mg/L
Zinc, total	2.61 mg/L
Cyanide, total	1.2 mg/L
TTO	2.13 mg/L

The Department of Ecology based the effluent limit for flow on the information presented in the permit application. Outfall 001 is defined as the nearest accessible point after treatment (Building 825, IWTP) and prior to actual discharge or mixing with other flows. Outfall 002 is defined as the Sample Station located outside Building 94, which has been maintained by Kitsap County Department of Public Works. The Permittee may split samples with the Kitsap County Public Works Department.

Due to the limited information on the toxicity of Otto Fuel, it is extremely difficult to establish a technically-based limitation. Therefore Ecology proposes a technology (AKART-based) Otto Fuel limitation of 0.2 mg/L. The analytical method employed by the Navy for Otto Fuel has a detection limit of 0.05 mg/L. Normally, the Navy is able to achieve a concentration of less than the detection limit in the final effluent from the carbon columns. Ecology considers activated carbon treatment of Otto Fuel-bearing wastewater streams to be consistent with state AKART requirements. The proposed Otto Fuel limitation is intended to ensure that Otto Fuel-bearing wastewater receives adequate treatment using activated carbon columns. Ecology is confident that the proposed limitation will also be adequate to prevent interference, pass-through, and the introduction of potentially flammable materials into the sanitary sewer. The proposed limitation is applicable at Sample Point 001.

EFFLUENT LIMITATIONS BASED ON LOCAL LIMITS

Kitsap County informed Ecology, in a letter dated June 24, 2002, of changes to its Ordinance 55, Section 16, which included pollutant limitations applicable where the wastestream from a facility discharges to the County's sanitary sewer system. These local limitations are applicable to the lift station sample point (Sample Point 002). The Kitsap County limitations are shown in the following table:

Local Limitations - Kitsap County Ordinance 55, Section 16	
Pollutant Parameter	Limitation
Arsenic	0.15 mg/L
Cadmium	0.10 mg/L
Chromium	1.0 mg/L
Copper	0.75 mg/L
Lead	0.25 mg/L
Mercury	0.010 mg/L
Molybdenum	2.0 mg/L
Nickel	0.60 mg/L
Selenium	0.80 mg/L
Silver	0.50 mg/L
Zinc	2.0 mg/L
Cyanide	0.75 mg/L
Ammonia (Total Ammonia Nitrogen)	50 mg/L

Ordinance 55 also contains a local limit of 300 mg/L for BOD₅. Since there are no industrial processes on-site resulting in the discharge of significant amounts of BOD₅ in the Permittee's effluent, the Department of Ecology did not include the local limit for BOD₅ in the proposed permit.

In order to protect the Central Kitsap POTW from pass-through, interference, concentrations of toxic chemicals that would impair beneficial or designated uses of sludge, or potentially hazardous exposure levels, the Department of Ecology has determined that limitations for certain pollutant parameters are necessary. The Department of Ecology based the limitations shown in the column for Sample Point 002 in the table below on Ordinance 55, Section 16, which was adopted by Kitsap County in 2002. The greater part of the limitations at Sample Point 001 are based on federal categorical limitations in 40 CFR Part 433.15 (Pretreatment Standards for Existing Sources – Metal Finishing). The pH limitation is not based explicitly on 40 CFR Part 433.15 (for which there is no pH standard established). Rather, the pH limitation is an adaptation of the limitation appearing in 40 CFR Part 433.13 (BPT Effluent Limitations – Metal Finishing). The Department of Ecology considers this adapted pH limitation to be consistent with state AKART requirements. The limitations for TSS and Oil and Grease are commonly considered by the Department of Ecology to be consistent with AKART for discharges to the sanitary sewer. Applicable limits for the proposed permit include the following:

Limitations Appearing in the Proposed Permit		
Parameter	Maximum Daily Limits Sample Point 001	Maximum Daily Limits Sample Point 002
Total Suspended Solids (TSS), mg/L	200	350
pH	Between 6 and 9 standard units	Between 6 and 9 standard units
Oil and Grease, mg/L	100	100
Cyanide (T), mg/L	1.2	0.75
Cadmium (T), mg/L	0.69	0.10
Chromium (T), mg/L	2.77	1.0
Copper (T), mg/L	3.38	0.75
Lead (T), mg/L	0.69	0.25
Nickel (T), mg/L	3.98	0.60
Zinc (T), mg/L	2.61	2.0
Mercury (T), mg/L	N/A	0.010
Silver (T), mg/L	0.43	0.5
Arsenic (T), mg/L	N/A	0.15
Molybdenum (T), mg/L	N/A	2.0
Selenium (T), mg/L	N/A	0.80
Ammonia Nitrogen, mg/L	N/A	50.0

The Department of Ecology does not expect pollutant concentrations in the proposed discharge with technology-based controls in place to cause problems at the receiving POTW, such as interference, pass-through, or hazardous exposure to POTW workers nor does it expect them to result in unacceptable pollutant levels in the POTW's sludge.

COMPARISON OF LIMITATIONS WITH THOSE IN THE EXISTING PERMIT

The proposed permit applies the same daily maximum categorical and technology-based limitations to the industrial effluent, as those appearing in the existing permit. The existing permit did not include average monthly limitations, which are part of the categorical regulations. The proposed permit contains the monthly average limitations as required by federal categorical standards (40 CFR Part 433.15 – Pretreatment Standards for Existing Sources). The Department of Ecology considers the categorical standards to be consistent with AKART requirements. The Department of Ecology proposes to remove the mercury limitation and monitoring requirements from Sample Point 001 based on a history of compliance with the mercury limitation. However, the Department of Ecology proposes to maintain the mercury monitoring requirements and standard at Sample Point 002 in order to continue to check on mercury from the base as a whole. Both the existing permit and the proposed permit contain the same limitations for Sample Point 002 with exception of the limitation for ammonia nitrogen. The 50 mg/L nitrogen limitation is based on local limitations established by Kitsap County. A comparison of limitations for Sample Point 002 is not shown in the table, as the limitations are the same in both permits.

Sample Point 001: Comparison of Limitations in the Proposed Permit to Limitations in the Existing Permit				
Parameter	Limitations in Existing Permit		Limitations in Proposed Permit	
	Average Monthly	Maximum Daily	Average Monthly	Maximum Daily
Flow, gallons per day	N/A	50,000	N/A	50,000
pH, standard pH units	N/A	Between 6.0 and 9.0	N/A	Between 6.0 and 9.0
Total Suspended Solids (TSS), mg/L	N/A	200	N/A	200
Total Toxic Organic Compounds (TTO), mg/L	N/A	2.13	N/A	2.13
Oil and Grease, mg/L	N/A	100		
Cyanide (T), mg/L	N/A	1.2	0.65	1.2
Cadmium (T), mg/L	N/A	0.69	0.26	0.69
Chromium (T), mg/L	N/A	2.77	1.71	2.77
Copper (T), mg/L	N/A	3.38	2.07	3.38
Lead (T), mg/L	N/A	0.69	0.43	0.69
Nickel (T), mg/L	N/A	3.98	2.38	3.98
Zinc (T), mg/L	N/A	2.61	1.48	2.61
Mercury (T), mg/L	N/A	0.005	N/A	N/A
Silver (T), mg/L	N/A	0.43	0.24	0.43

MONITORING REQUIREMENTS

Monitoring, recording, and reporting are specified to verify that the treatment process is functioning correctly, and that effluent limitations are being achieved (WAC 173-216-110).

The monitoring schedule is detailed in the proposed permit under Conditions S1 and S2. Specified monitoring frequencies take into account the quantity and variability of the discharge, the treatment method, past compliance, significance of pollutants, and cost of monitoring.

OTHER PERMIT CONDITIONS

REPORTING AND RECORD KEEPING

The conditions of S3 are based on the authority to specify any appropriate reporting and record keeping requirements to prevent and control waste discharges [WAC 173-216-110 and 40 CFR 403.12 (e),(g), and (h)].

OPERATIONS AND MAINTENANCE

The proposed permit contains Condition S.5 as authorized under Chapter 173-240-150 WAC and Chapter 173-216-110 WAC. It is included to ensure proper operation and regular maintenance of equipment, and to ensure that adequate safeguards are taken so that constructed facilities are used to their optimum potential in terms of pollutant capture and treatment. The proposed permit requires submission of an updated O&M Manual for the wastewater treatment system.

PROHIBITED DISCHARGES

Certain pollutants are prohibited from being discharged to the POTW. These include substances which cause pass-through or interference, pollutants which may cause damage to the POTW or harm to the POTW workers (Chapter 173-216 WAC) and the discharge of designated dangerous wastes not authorized by this permit (Chapter 173-303 WAC).

DILUTION PROHIBITED

The Permittee is prohibited from diluting its effluent as a partial or complete substitute for adequate treatment to achieve compliance with permit limitations.

NON-ROUTINE AND UNANTICIPATED DISCHARGES

Occasionally, this facility may generate wastewater which is not characterized in their permit application because it is not a routine discharge and was not anticipated at the time of application. These typically are waters used to pressure test storage tanks or fire water systems or leaks from drinking water systems. These are typically clean waste waters but may be contaminated with pollutants. The permit contains an authorization for non-routine and unanticipated discharges. The permit requires a characterization of these waste waters for pollutants and examination of the opportunities for reuse. Depending on the nature and extent of pollutants in this wastewater and opportunities for reuse, Ecology may authorize a direct discharge to the municipality, require the wastewater to be placed through the facility's wastewater treatment process, or require the water to be reused.

SPILL PLAN

The Department of Ecology has determined that the Permittee stores a quantity of chemicals that have the potential to cause water pollution if accidentally released. The Department of Ecology has the authority to require the Permittee to develop best management plans to prevent this accidental release under Section 402(a)(1) of the Federal Water Pollution Control Act (FWPCA) and RCW 90.48.080.

The proposed permit requires that the Permittee update its spill plan and submit it to the Department of Ecology. The proposed permit also requires the Permittee to periodically review its spill plan and make further updates as necessary.

SLUG DISCHARGE CONTROL PLAN

The Department of Ecology has determined that the Permittee has the potential for a batch discharge or a spill that could adversely affect the POTW. Therefore a slug discharge control plan is required (40 CFR 403.8 (f)). The proposed permit also requires the Permittee to periodically review its slug discharge control plan and make further updates as necessary.

TOXIC ORGANIC MANAGEMENT PLAN

40 CFR Part 433 authorizes an option under which a Permittee may elect to prepare a Toxic Organic Management Plan and submit a TTO Certification Statement, in lieu of conducting monitoring for those compounds comprising TTOs. The language of the permit authorizes the Permittee to employ this option.

OPTIONAL AMMONIA NITROGEN STUDY

Kitsap County Public Works has a limitation of 50 mg/L for ammonia nitrogen. The Department of Ecology proposes to place a limitation of 50 mg/L in the proposed permit. The technical and legal basis for the 40 mg/L limitation in the existing permit is unclear, as Kitsap County's limitation is 50 mg/L. The Department of Ecology applied this limitation in the proposed permit at Sample Point 002, through which flows the combined industrial and non-industrial wastewater from the base. The Navy recently exceeded this limit. The Permittee has requested that this limit be removed from the permit. The Department of Ecology is giving the Navy an option to conduct a study under which it would undertake sampling of its industrial wastewater stream at Sample Point 001 for ammonia nitrogen, in order to determine if the high assays of ammonia nitrogen are due to industrial sources on the base. The full-time residential population on the base is very low compared to the number of full-time employees, and the volume of industrial flow is low on most days due to the largely batch nature of industrial discharges. The Department of Ecology has hypothesized that the high ammonia nitrogen assays (compared to typical municipal domestic sewage) may be due to a higher ratio of toilet/urinal wastewater volume compared to bath and dishwater discharges than is prevalent in domestic wastewater. If the study shows that the source of the high ammonia nitrogen assays is non-industrial, the Department of Ecology will consider removing the ammonia nitrogen limitation and sampling requirement from Sample Point 002 in the permit under a modification. State regulations require that significant industrial users possess a discharge permit to discharge industrial wastewater to the sanitary sewer. The regulations do not require possession of an industrial discharge permit to authorize the discharge of domestic wastewater to the sanitary sewer. Nevertheless, the Permittee should realize that the Central Kitsap plant is concerned with limiting ammonia in the effluent from the POTW. There is the possibility that even if the Department of Ecology removes the ammonia monitoring requirement from the permit, that Kitsap County may impose monitoring requirements and limits for ammonia nitrogen under its own authority.

GENERAL CONDITIONS

General Conditions are based directly on state laws and regulations and have been standardized for all industrial waste discharge to POTW permits issued by the Department of Ecology.

Condition G1 requires responsible officials or their designated representatives to sign submittals to Ecology. Condition G2 requires the Permittee to allow Ecology to access the treatment system, production facility, and records related to the permit. Condition G3 specifies conditions for modifying, suspending, or terminating the permit. Condition G4 requires the Permittee to apply to Ecology prior to increasing or varying the discharge from the levels stated in the permit application. Condition G5 requires the Permittee to construct, modify, and operate the permitted facility in accordance with approved engineering documents. Condition G6 prohibits the Permittee from using the permit as a basis for violating any laws, statutes, or regulations. Conditions G7 and G8 relate to permit renewal and transfer. Condition G9 requires the

Permittee to control production or wastewater discharge in order to maintain compliance with the permit. Condition G10 prohibits the reintroduction of removed pollutants into the effluent stream for discharge. Condition G11 requires the payment of permit fees. Condition G12 describes the penalties for violating permit conditions.

PUBLIC NOTIFICATION OF NONCOMPLIANCE

A list of all industrial users which were in significant noncompliance with Pretreatment Standards or Requirements during any of the previous four quarters may be annually published by Ecology in a local newspaper. Accordingly, the Permittee is apprised that noncompliance with this permit may result in publication of the noncompliance.

RECOMMENDATION FOR PERMIT ISSUANCE

This proposed permit meets all statutory requirements for authorizing a wastewater discharge, including those limitations and conditions believed necessary to control toxic pollutants. Ecology proposes that the permit be issued with an expiration date which will result in permit life of five (5) years.

REFERENCES FOR TEXT AND APPENDICES

Washington State Department of Ecology.

Laws and Regulations (<http://www.ecy.wa.gov/laws-rules/index.html>)

Permit and Wastewater Related Information
(<http://www.ecy.wa.gov/programs/wq/wastewater/index.html>)

APPENDICES

APPENDIX A—PUBLIC INVOLVEMENT INFORMATION

Ecology has tentatively determined to reissue a permit to the applicant listed on page one of this fact sheet. The permit contains conditions and effluent limitations which are described in the rest of this fact sheet.

Public Notice of Application (PNOA) was published on June 28, 2007, in the *Kitsap Sun* to inform the public that an application had been submitted and to invite comment on the reissuance of this permit.

Ecology published a Public Notice of Draft (PNOD) on February 26, 2009, in the *Kitsap Sun* to inform the public that a draft permit and fact sheet were available for review. Interested persons were invited to submit written comments regarding the draft permit. The draft permit, fact sheet, and related documents were available for inspection and copying between the hours of 8:00 a.m. and 5:00 p.m. weekdays, by appointment, at the regional office listed below. Written comments were mailed to:

Water Quality Permit Coordinator
Department of Ecology
Northwest Regional Office
3190 160th Avenue SE
Bellevue, WA 98008-5452

Any interested party may comment on the draft permit or request a public hearing on this draft permit within the thirty (30)-day comment period to the address above. The request for a hearing shall indicate the interest of the party and reasons why the hearing is warranted. Ecology will hold a hearing if it determines there is a significant public interest in the draft permit (WAC 173-216-100). Public notice regarding any hearing will be circulated at least thirty (30) days in advance of the hearing. People expressing an interest in this permit will be mailed an individual notice of hearing.

Comments should reference specific text followed by proposed modification or concern when possible. Comments may address technical issues, accuracy and completeness of information, the scope of the facility's proposed coverage, adequacy of environmental protection, permit conditions, or any other concern that would result from issuance of this permit.

Ecology will consider all comments received within thirty (30) days from the date of public notice of draft indicated above, in formulating a final determination to issue, revise, or deny the permit. Ecology's response to all significant comments is available upon request and will be mailed directly to people expressing an interest in this permit.

Further information may be obtained from Ecology by telephone, (425) 649-7201, or by writing to the address listed above.

APPENDIX B—GLOSSARY

Ammonia—Ammonia is produced by the breakdown of nitrogenous materials in wastewater. Ammonia is toxic to aquatic organisms, exerts an oxygen demand, and contributes to eutrophication. It also increases the amount of chlorine needed to disinfect wastewater.

Average Monthly Discharge Limitation—The average of the measured values obtained over a calendar month's time.

Azeotrope—A mixture of two or more compounds, in which the mixture exhibits a boiling point less than that of any of the individual compounds of which the mixture is composed.

Best Management Practices (BMPs)—Schedules of activities, prohibitions of practices, maintenance procedures, and other physical, structural and/or managerial practices to prevent or reduce the pollution of waters of the state. BMPs include treatment systems, operating procedures, and practices to control plant site runoff, spillage or leaks, sludge or waste disposal, or drainage from raw material storage. BMPs may be further categorized as operational, source control, erosion and sediment control, and treatment BMPs.

BOD₅—Determining the Biochemical Oxygen Demand of an effluent is an indirect way of measuring the quantity of organic material present in an effluent that is utilized by bacteria. The BOD₅ is used in modeling to measure the reduction of dissolved oxygen in a receiving water after effluent is discharged. Stress caused by reduced dissolved oxygen levels makes organisms less competitive and less able to sustain their species in the aquatic environment. Although BOD is not a specific compound, it is defined as a conventional pollutant under the federal Clean Water Act.

Bypass—The intentional diversion of waste streams from any portion of the collection or treatment facility.

Categorical Pretreatment Standards—National pretreatment standards specifying quantities or concentrations of pollutants or pollutant properties which may be discharged to a POTW by existing or new industrial users in specific industrial subcategories.

Compliance Inspection - Without Sampling—A site visit for the purpose of determining the compliance of a facility with the terms and conditions of its permit or with applicable statutes and regulations.

Compliance Inspection - With Sampling—A site visit to accomplish the purpose of a Compliance Inspection - Without Sampling and as a minimum, sampling and analysis for all parameters with limits in the permit to ascertain compliance with those limits; and, for municipal facilities, sampling of influent to ascertain compliance with the 85 percent removal requirement. Additional sampling may be conducted.

Composite Sample—A mixture of grab samples collected at the same sampling point at different times, formed either by continuous sampling or by mixing discrete samples. May be “time-composite” (collected at constant time intervals) or “flow-proportional” (collected either as a constant sample volume at time intervals proportional to stream flow, or collected by increasing the volume of each aliquot as the flow increased while maintaining a constant time interval between the aliquots).

Construction Activity—Clearing, grading, excavation, and any other activity which disturbs the surface of the land. Such activities may include road building; construction of residential houses, office buildings, or industrial buildings; and demolition activity.

Continuous Monitoring—Uninterrupted, unless otherwise noted in the permit.

Engineering Report—A document, signed by a professional licensed engineer, which thoroughly examines the engineering and administrative aspects of a particular domestic or industrial wastewater facility. The report shall contain the appropriate information required in WAC 173-240-060 or 173-240-130.

Grab Sample—A single sample or measurement taken at a specific time or over as short a period of time as is feasible.

Industrial User—A discharger of wastewater to the sanitary sewer which is not sanitary wastewater or is not equivalent to sanitary wastewater in character.

Industrial Wastewater—Water or liquid-carried waste from industrial or commercial processes, as distinct from domestic wastewater. These wastes may result from any process or activity of industry, manufacture, trade or business; from the development of any natural resource; or from animal operations such as feed lots, poultry houses, or dairies. The term includes contaminated storm water and, also, leachate from solid waste facilities.

Interference—A discharge which, alone or in conjunction with a discharge or discharges from other sources, both:

Inhibits or disrupts the POTW, its treatment processes or operations, or its sludge processes, use or disposal; and

Therefore is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation) or of the prevention of sewage sludge use or disposal in compliance with the following statutory provisions and regulations or permits issued thereunder (or more stringent state or local regulations): Section 405 of the Clean Water Act, the Solid Waste Disposal Act (SWDA) (including Title II, more commonly referred to as the Resource Conservation and Recovery Act (RCRA), and including state regulations contained in any state sludge management plan prepared pursuant to subtitle D of the SWDA), sludge regulations appearing in 40 CFR Part 507, the Clean Air Act, the Toxic Substances Control Act, and the Marine Protection, Research and Sanctuaries Act.

Local Limits—Specific prohibitions or limits on pollutants or pollutant parameters developed by a POTW.

Maximum Daily Discharge Limitation—The highest allowable daily discharge of a pollutant measured during a calendar day or any 24-hour period that reasonably represents the calendar day for purposes of sampling. The daily discharge is calculated as the average measurement of the pollutant over the day.

Method Detection Level (MDL) —The minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is above zero and is determined from analysis of a sample in a given matrix containing the analyte.

Pass-through—A discharge which exits the POTW into waters of the state in quantities or concentrations which, alone or in conjunction with a discharge or discharges from other sources, is a cause of a violation of any requirement of the POTW's NPDES permit (including an increase in the magnitude or duration of a violation), or which is a cause of a violation of state water quality standards.

pH—The pH of a liquid measures its acidity or alkalinity. A pH of 7 is defined as neutral, and large variations above or below this value are considered harmful to most aquatic life.

Potential Significant Industrial User—A potential significant industrial user is defined as an Industrial User which does not meet the criteria for a Significant Industrial User, but which discharges wastewater meeting one or more of the following criteria:

- a. Exceeds 0.5 % of treatment plant design capacity criteria and discharges <25,000 gallons per day; or
- b. Is a member of a group of similar industrial users which, taken together, have the potential to cause pass-through or interference at the POTW (for example, facilities which develop photographic film or paper, and car washes).

Ecology may determine that a discharger initially classified as a potential significant industrial user should be managed as a significant industrial user.

Quantitation Level (QL)—A calculated value five times the MDL (method detection level).

Significant Industrial User (SIU)—

- 1) All industrial users subject to Categorical Pretreatment Standards under 40 CFR 403.6 and 40 CFR Chapter I, Subchapter N; and
- 2) Any other industrial user that: discharges an average of 25,000 gallons per day or more of process wastewater to the POTW (excluding sanitary, noncontact cooling, and boiler blow-down wastewater); contributes a process wastestream that makes up 5 percent or more of the average dry weather hydraulic or organic capacity of the POTW treatment plant; or is designated as such by the Control Authority* on the basis that the industrial user has a reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement (in accordance with 40 CFR 403.8(f)(6)).

Upon finding that the industrial user meeting the criteria in paragraph 2, above, has no reasonable potential for adversely affecting the POTW's operation or for violating any pretreatment standard or requirement, the Control Authority* may at any time, on its own initiative or in response to a petition received from an industrial user or POTW, and in accordance with 40 CFR 403.8(f)(6), determine that such industrial user is not a significant industrial user.

*The term "Control Authority" refers to the Washington State Department of Ecology in the case of non-delegated POTWs or to the POTW in the case of delegated POTWs.

Slug Discharge—Any discharge of a non-routine, episodic nature, including but not limited to an accidental spill or a non-customary batch discharge to the POTW. This may include any pollutant released at a flow rate which may cause interference with the POTW.

State Waters—Lakes, rivers, ponds, streams, inland waters, underground waters, salt waters, and all other surface waters and watercourses within the jurisdiction of the state of Washington.

Stormwater—That portion of precipitation that does not naturally percolate into the ground or evaporate, but flows via overland flow, interflow, pipes, and other features of a storm water drainage system into a defined surface water body, or a constructed infiltration facility.

Technology-based Effluent Limit—A permit limit that is based on the ability of a treatment method to reduce the pollutant.

Total Coliform Bacteria—A microbiological test which detects and enumerates the total coliform group of bacteria in water samples.

Total Dissolved Solids—That portion of total solids in water or wastewater that passes through a specific filter.

Total Suspended Solids (TSS)—Total suspended solids is the particulate material in an effluent. Large quantities of TSS discharged to a receiving water may result in solids accumulation. Apart from any toxic effects attributable to substances leached out by water, suspended solids may kill fish, shellfish, and other aquatic organisms by causing abrasive injuries and by clogging the gills and respiratory passages of various aquatic fauna. Indirectly, suspended solids can screen out light and can promote and maintain the development of noxious conditions through oxygen depletion.

Water Quality-based Effluent Limit—A limit on the concentration of an effluent parameter that is intended to prevent the concentration of that parameter from exceeding its water quality criterion after it is discharged into a receiving water.

APPENDIX C—RESPONSE TO COMMENTS

There were no comments during the public comment period.